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L8        1677 L7 AND 1/NR

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FILE LAST UPDATED: 9 Nov 2001  (20011109/ED)

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=> s l8/prep
          7707 L8
       2798213 PREP/RL
L9         796 L8/PREP
                 (L8 (L) PREP/RL)

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        723251 TRANSITION
        211376 TRANSITIONS
        816763 TRANSITION
                 (TRANSITION OR TRANSITIONS)
       1242373 METAL
        605907 METALS
       1488751 METAL
                 (METAL OR METALS)
        143990 TRANSITION METAL
                 (TRANSITION(W)METAL)
L10         18 L9 AND TRANSITION METAL
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                 (METAL OR METALS)
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          1220 NAS
        650149 NA
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       1202168 GA
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L12 IS NOT A RECOGNIZED COMMAND
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L13         79 L12 AND METAL

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        816763 TRANSITION
                 (TRANSITION OR TRANSITIONS)
L14         16 L13 AND TRANSITION

=> d ti 1-16

L14  ANSWER 1 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Transition metal catalyzed preparation of Grignard
     compounds

L14  ANSWER 2 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Catalyst composition comprising group VIII metal and bidentate
     phosphine ligand for preparation of polyketones

L14  ANSWER 3 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Reactivity of ether- and amine-complexed dimers and tetramers of
     alkyllithiums towards triphenylmethane

L14  ANSWER 4 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   High-yield low-cost preparation of metallocene compound by rection of
     metallocene dihalide with Grignard reagent

L14  ANSWER 5 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Supported diols, ligands containing two phosphorus atoms, and
     transition-metal complexes for catalysts

L14  ANSWER 6 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Stabilizer for (fluoroaryl)borane compound and methods of stabilizing and
     crystallizing (fluoroaryl)borane compound

L14  ANSWER 7 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Delivery and scavenging agents for combinatorial synthesis of
     organometallic compds.

L14  ANSWER 8 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Method for preparation of vanadium metallocene

L14  ANSWER 9 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Transition metal complexes, catalysts for olefin
     polymerization, and process for producing olefin polymers

L14  ANSWER 10 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Organoarsenic ligands as potential f-transition
     metal ion extractants. Part 1. The synthesis of some new
     organofluorine arsonic and arsinic acids

L14  ANSWER 11 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Process and catalysts for the preparation of bisaryl compounds by the
     coupling of arylmagnesium chlorides with aryl chlorides in the presence of
     phosphine ligands

L14  ANSWER 12 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Synthesis and characterization of chiral bimetallic complexes bearing hard
     and soft Lewis acidic sites

L14  ANSWER 13 OF 16  CAPLUS  COPYRIGHT 2001 ACS
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TI   Process for the preparation of 5-(2,4-difluorophenyl)salicylic acid

L14  ANSWER 14 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Mechanistic studies of the thermolytic and photolytic rearrangement of
     [bis(diphenylphosphino)ethane]bis(neophyl)platinum(II)

L14  ANSWER 15 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Reactions of organometallic compounds catalyzed by transition
     metal complexes. XIII. Comparison of activities of organometallic
     compounds in aryldemetalation catalyzed by palladium complexes

L14  ANSWER 16 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Catalysts for polymerization of olefins


=> d his

     (FILE 'HOME' ENTERED AT 14:36:01 ON 11 NOV 2001)

     FILE 'REGISTRY' ENTERED AT 14:36:13 ON 11 NOV 2001
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L3          6337 S L2 AND C/ELS
L4          5469 S L3 AND 1/MG
L5          5171 S L4 AND 1/M
L6          5037 S L4 NOT SI/ELS
L7          4938 S L6 NOT (PHTHALO? OR PORPH?)
L8          1677 S L7 AND 1/NR

     FILE 'CAPLUS' ENTERED AT 14:39:32 ON 11 NOV 2001
L9           796 S L8/PREP
L10           18 S L9 AND TRANSITION METAL
L11          115 S L9 AND METAL
L12          448 S L9 AND (LI? OR NA OR K  OR CS OR BE OR CA OR CA OR BA OR B OR
L13           79 S L12 AND METAL
L14           16 S L13 AND TRANSITION

=> s l9 and grignard
          36351 GRIGNARD
            610 GRIGNARDS
          36512 GRIGNARD
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L15         408 L9 AND GRIGNARD

=> s l15 and catalys?
         731749 CATALYS?
L16          64 L15 AND CATALYS?

=> s l16 and transition
         723251 TRANSITION
         211376 TRANSITIONS
         816763 TRANSITION
                (TRANSITION OR TRANSITIONS)
L17           8 L16 AND TRANSITION

=> d ibib abs hitstr 1-8

L17  ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:         2001:17097  CAPLUS
DOCUMENT NUMBER:          134:207854
TITLE:                    Transition metal catalyzed preparation of
                          Grignard compounds
AUTHOR(S):                Bogdanovic, Borislav; Schwickardi, Manfred
CORPORATE SOURCE:         Max-Planck-Institut fur Kohlenforschung, Mulheim an
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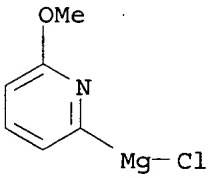
der Ruhr, 45470, Germany
SOURCE: Angew. Chem., Int. Ed. (2000), 39(24), 4610-4612
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method is introduced for the prepn. of several **Grignard** compds. that are considered to be difficult to prep. and the possible catalytic role of the **transition** metals are discussed. Thus, FeCl2-catalyzed and MgCl2-cocatalyzed **Grignard** reaction of 1-chloronaphthalene with magnesium in THF gave 82.3% 1-naphthylmagnesium chloride.
IT **328553-25-9P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**transition** metal catalyzed prepn. of **Grignard** compds.)
RN 328553-25-9 CAPLUS
CN Magnesium, chloro(6-methoxy-2-pyridinyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 16
REFERENCE(S): (1) Aleandri, L; Adv Mater 1996, V8, P600 CAPLUS
(2) Aleandri, L; Chem Eur J 1997, V3, P1710 CAPLUS
(3) Aleandri, L; Chem Eur J 1997, V3, P1710 CAPLUS
(4) Aleandri, L; Chem Mater 1995, V7, P1153 CAPLUS
(5) Bogdanovic, B; WO 9802443 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:819386 CAPLUS
DOCUMENT NUMBER: 132:58385
TITLE: High-yield low-cost preparation of metallocene compound by rection of metallocene dihalide with **Grignard** reagent
INVENTOR(S): Kitagawa, Yuichi; Otaka, Koji; Kubo, Tomoya; Takeichi, Eiji
PATENT ASSIGNEE(S): Asahi Kasei Kogyo K. K., Japan
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9967260	A1	19991229	WO 1998-JP2819	19980624
W: ES, US				
US 6175025	B1	20010116	US 2000-486273	20000223

PRIORITY APPLN. INFO.: JP 1996-345421 A 19961225
JP 1997-354685 A 19971224
WO 1998-JP2819 W 19980624

AB Disubstituted metallocene compds. with high quality can be prepd. by the reaction of a metallocene dihalide with a **Grignard** reagent of formula RMgX (R: (substituted) aryl, benzyl, or diarylphosphinomethylene;

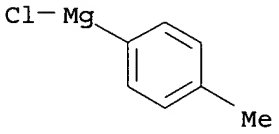
X: halogen) under specified conditions. Thus, di-p-tolylbis(.eta.-cyclopentadienyl)titanium was prepd. by reaction of p-tolylmagnesium chloride-THF soln. 45 L (1.810 mol/L) with titanocene dichloride-xylene soln. (8817 g/110 L) at (-8.degree.)-(-10.degree.) for 10 h, showing yield 67.0%, Ti content 13.26%, and Mg and Cl residue 1 ppm and 10 ppm, resp.

IT **100-59-4P**, Phenylmagnesium chloride **696-61-7P**, p-Tolylmagnesium chloride **699-19-4P**, p-Methoxyphenylmagnesium chloride **6921-34-2P**, Benzylmagnesium chloride
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**
(prepn. of metallocene compd. by rection of metallocene dihalide with **Grignard** reagent)

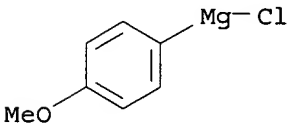
RN 100-59-4 CAPLUS
CN Magnesium, chlorophenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

Ph—Mg—Cl

RN 696-61-7 CAPLUS
CN Magnesium, chloro(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 699-19-4 CAPLUS
CN Magnesium, chloro(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 6921-34-2 CAPLUS
CN Magnesium, chloro(phenylmethyl)- (9CI) (CA INDEX NAME)

Ph—CH_2—Mg—Cl

REFERENCE COUNT: 2
REFERENCE(S): (1) Hoechst Ag; EP 749985 A2 CAPLUS
(2) Hoechst Ag; JP 93085 A 1997

L17 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:412982 CAPLUS
DOCUMENT NUMBER: 131:32047
TITLE: Method for synthesis of organomagnesium compounds using **catalysts**
INVENTOR(S): Bogdanovic, Borislav; Schwickardi, Manfred
PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

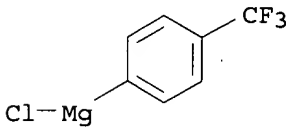
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19757499	A1	19990624	DE 1997-19757499	19971223
WO 9933844	A1	19990708	WO 1998-EP8056	19981210
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1042332	A1	20001011	EP 1998-966289	19981210
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
US 6221285	B1	20010424	US 2000-581874	20000619

PRIORITY APPLN. INFO.: DE 1997-19757499 A 19971223
WO 1998-EP8056 W 19981210
OTHER SOURCE(S): CASREACT 131:32047

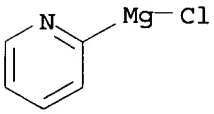
AB The prepn. of organomagnesium compds. from reaction of arom. org. chloride with magnesium in the presence of **transition** metal **catalysts** is reported. Thus, activation of magnesium powder with EtBr in THF followed by Fe(OEt)2 catalyzed reaction with 1,3-dibenzyl-2-(4-chlorophenyl)-imidazolidine gave organomagnesium compd. which on silylation with Me3SiCl gave 94.3% 1,3-dibenzyl-2-(4-trimethylsilylphenyl)-imidazolidine.

IT **2923-41-3P 52770-24-8P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(method for synthesis of organomagnesium compds. using **transition** metal complex **catalysts**)

RN 2923-41-3 CAPLUS
CN Magnesium, chloro[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 52770-24-8 CAPLUS
CN Magnesium, chloro-2-pyridinyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14
REFERENCE(S):
(1) Anon; EP 0001861 A1 CAPLUS
(2) Anon; EP 0014983 A2 CAPLUS
(3) Anon; DE 19605778 C1 CAPLUS
(4) Anon; DE 19628159 A1 CAPLUS
(5) Anon; DE 2749983 A1 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:59159 CAPLUS
DOCUMENT NUMBER: 128:128143

TITLE: Method for synthesizing **Grignard** compounds using **catalysts**
INVENTOR(S): Bogdanovic, Borislav; Schwickardi, Manfred
PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

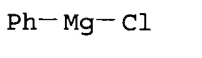
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19628159	A1	19980115	DE 1996-19628159	19960712
CA 2260023	AA	19980122	CA 1997-2260023	19970703
WO 9802443	A1	19980122	WO 1997-EP3516	19970703
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 915889	A1	19990519	EP 1997-931761	19970703
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
JP 2000514444	T2	20001031	JP 1998-505568	19970703
US 6117372	A	20000912	US 1999-214369	19990105

PRIORITY APPLN. INFO.: DE 1996-19628159 A 19960712
WO 1997-EP3516 W 19970703
OTHER SOURCE(S): CASREACT 128:128143

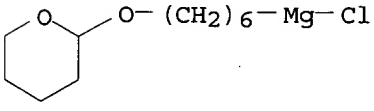
AB The prepn. of **Grignard** reagent of arom. chloro compds. by the reaction of magnesium metal in the presence of **transition** metal/magnesium chloride complex as **catalyst** is described. Thus, activation of magnesium with Et bromide in THF followed by treatment with FeCl2/MgCl2 in THF gave [FeMgCl.cntdot.0.5 MgCl2] **catalyst**. Reaction of 1-chloronaphthalene with magnesium in THF gave 62% 1-naphthylmagnesium chloride.

IT **100-59-4P**, Phenylmagnesium chloride **69049-76-9P**, 6-(Tetrahydropyran-2-yloxy)hexylmagnesium chloride **104888-35-9P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(method for synthesizing **Grignard** compds. using **catalysts**)

RN 100-59-4 CAPLUS
CN Magnesium, chlorophenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 69049-76-9 CAPLUS
CN Magnesium, chloro[6-[(tetrahydro-2H-pyran-2-yl)oxy]hexyl]- (9CI) (CA INDEX NAME)

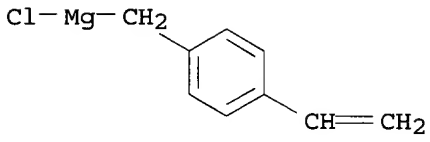


RN 104888-35-9 CAPLUS
CN Magnesium, chloro[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87532-75-0

CMF C9 H9 Cl Mg



L17 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:478335 CAPLUS
DOCUMENT NUMBER: 122:239312
TITLE: Process and **catalysts** for the preparation of bisaryl compounds by the coupling of arylmagnesium chlorides with aryl chlorides in the presence of phosphine ligands
INVENTOR(S): Poetsch, Eike; Meyer, Volker
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4326169	A1	19950209	DE 1993-4326169	19930804

OTHER SOURCE(S): CASREACT 122:239312; MARPAT 122:239312
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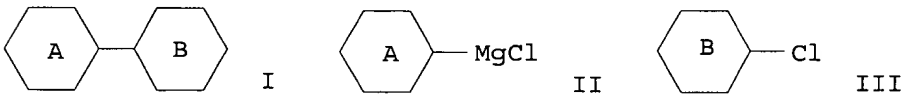
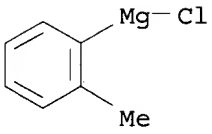


I II III

AB The title compds. [I; rings A and B = (un)substituted Ph, naphthyl] (e.g., 2-methylbiphenyl), useful as liq. crystals, are prepd. in high yield and selectivity by the coupling of aryl **Grignard** reagents (II) (e.g., o-tolylmagnesium chloride) with aryl chlorides (III) (e.g., PhCl) in the presence of a **transition** metal **catalysts** (e.g., NiCl2) and phosphine R12PR2 [R1 = (un)branched alkyl, alkoxy, cycloalkyl; R2 = R1, R3PR12; R3 = C1-10 alkylene] ligands (e.g., tricyclohexylphosphine).

IT **33872-80-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**
(process and **catalysts** for the prepn. of bisaryl compds. by the coupling of arylmagnesium chlorides with aryl chlorides in the presence of phosphine ligands)

RN 33872-80-9 CAPLUS
CN Magnesium, chloro(2-methylphenyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:572245 CAPLUS
DOCUMENT NUMBER: 117:172245
TITLE: Hyperbranched polyphenylenes
AUTHOR(S): Kim, Young H.; Webster, Owen W.
CORPORATE SOURCE: Du Pont Cent. Res. and Dev., Wilmington, DE, 19880-0328, USA
SOURCE: Macromolecules (1992), 25(21), 5561-72
CODEN: MAMOBX; ISSN: 0024-9297
DOCUMENT TYPE: Journal
LANGUAGE: English

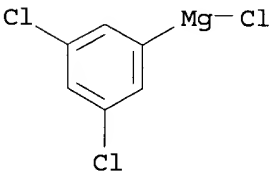
AB Highly branched polyphenylenes were synthesized from AB2 type monomers, e.g., (3,5-dibromophenyl)boronic acid and 3,5-dihalophenyl **Grignard** reagents. These monomers were polymd. by Pd(0) and Ni(II)-catalyzed aryl-aryl coupling reactions, resp. Polymers with mol. wts. 5,000-35,000 and polydispersities <1.5 were obtained. They were thermally stable to 550.degree. and sol. in many org. solvents. 13C NMR indicated .apprx.70% branching efficiency. A Tg at 236.degree. was obsd., but the polymer was brittle and did not form films. The melt flow viscosity of polystyrene was reduced, and the modulus was improved as a bromo functional hyperbranched polymer was added. The bromo polymer was metalated with butyllithium. The resulting lithio polymer reacted with various electrophiles to provide polymers with other end groups which control soly. as well as thermal properties. Some of these derivs. were used as multifunctional initiators to prep. star polymers, for example, via ring-opening polymn. of propiolactone and anionic polymn. of Me methacrylate.

IT **125128-37-2P 143172-68-3P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(hyperbranched, prepn. and properties of)

RN 125128-37-2 CAPLUS
CN Magnesium, chloro(3,5-dichlorophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

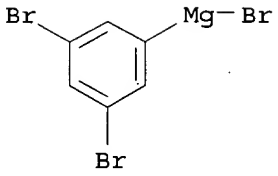
CRN 124963-68-4
CMF C6 H3 Cl3 Mg



RN 143172-68-3 CAPLUS
CN Magnesium, bromo(3,5-dibromophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

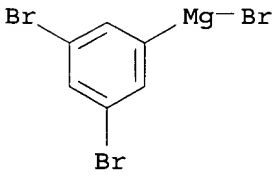
CRN 38440-05-0
CMF C6 H3 Br3 Mg



IT **143172-68-3DP**, reaction products with butyllithium and electrophiles
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. and characterization of)
RN 143172-68-3 CAPLUS
CN Magnesium, bromo(3,5-dibromophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 38440-05-0
CMF C6 H3 Br3 Mg



L17 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:78260 CAPLUS
DOCUMENT NUMBER: 112:78260
TITLE: Hyperbranched polyarylene
INVENTOR(S): Kim, Young H.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4857630	A	19890815	US 1987-129151	19871207
US 5070183	A	19911203	US 1989-341072	19890420
US 5145930	A	19920908	US 1991-745300	19910815

PRIORITY APPLN. INFO.: US 1987-129151 19871207
US 1989-341072 19890420

AB Sol. hyperbranched polyarylenes are prepd. which have .gtoreq.1 branch per 10 repeating monomer units, (n-1)x + 1 functional groups selected from Br, I, or Cl (n = no. of halogen atoms per mol.; x = no. of repeating monomer units), and spherical diam. <1000 .ANG.. Thus, 9.44 g 1,3,5-Br3C6H3 was reacted with 19.4 mL 1.55M BuLi in hexane at -78.degree. under N, 30 mL of B(OMe)3 in 300 mL Et2O added, the reaction mixt. warmed to room temp. overnight, and further reacted with 6N HCl, producing 8.49 g 3,5-dibromobenzeneboronic acid, 2.98 g of which (dissolved in 5 mL Et2O) was polymd. in a mixt. of 50 mL xylene, 20 mL 1M aq. Na2CO3, and 30.8 mg Pd(PPh3)4 over 11 h at 88.degree. (reflux), producing a polymer having

no.-av. mol. wt. 5000 and glass **transition** temp. 237.6.degree..

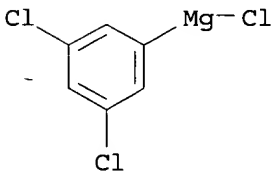
IT **125128-37-2P**
RL: **PREP (Preparation)**
(hyperbranched, manuf. of)

RN 125128-37-2 CAPLUS

CN Magnesium, chloro(3,5-dichlorophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

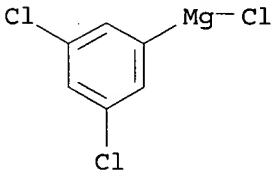
CRN 124963-68-4
CMF C6 H3 Cl3 Mg



IT **124963-68-4P**
RL: RCT (Reactant); **PREP (Preparation)**
(prepn. and polymn. of)

RN 124963-68-4 CAPLUS

CN Magnesium, chloro(3,5-dichlorophenyl)- (9CI) (CA INDEX NAME)



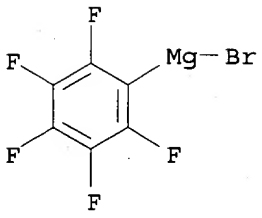
L17 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1969:470669 CAPLUS
DOCUMENT NUMBER: 71:70669
TITLE: New synthesis of perfluoroaromatic **Grignard** reagents
AUTHOR(S): Respess, William L.; Tamborski, Christ
CORPORATE SOURCE: Air Force Mater. Lab., Wright-Patterson Air Force Base, Ohio, USA
SOURCE: J. Organometal. Chem. (1969), 18(2), 263-74
CODEN: JORCAI
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Perfluoroaryl-magnesium compds. (I) were synthesized directly from completely fluorinated aryl compounds (e.g., hexafluorobenzene, decafluorobiphenyl, octafluorotoluene and octafluoronaphthalene) through their reaction with EtMgBr and certain **transition** metal halides ($CoCl_2$, $FeCl_2$, $NiCl_2$, CuI, $TiCl_4$, $PdCl_2$, $RhCl_3$ and AgCl). The yields of the I vary with the type of perfluoroaryl substrate and metal halide. I thus formed undergo typical **Grignard** reactions.

IT **879-05-0P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. of)

RN 879-05-0 CAPLUS

CN Magnesium, bromo(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)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F
Mg—Br
F
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FILE COVERS 1947 - 11 Nov 2001  VOL 135 ISS 21
FILE LAST UPDATED: 9 Nov 2001  (20011109/ED)

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CAS, is strictly prohibited.

=> s l8/prep
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       2798213 PREP/RL
L9          796 L8/PREP
                  (L8 (L) PREP/RL)

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         723251 TRANSITION
         211376 TRANSITIONS
         816763 TRANSITION
                  (TRANSITION OR TRANSITIONS)
        1242373 METAL
         605907 METALS
        1488751 METAL
                  (METAL OR METALS)
         143990 TRANSITION METAL
                  (TRANSITION(W)METAL)
L10          18 L9 AND TRANSITION METAL
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                 (METAL OR METALS)
L11         115 L9 AND METAL

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        649163 NA
          1220 NAS
        650149 NA
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       1109474 K
         72874 CS
            43 CSES
         72914 CS
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For a list of commands available to you in the current file, enter
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L13         79 L12 AND METAL

=> s l13 and transition
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        816763 TRANSITION
                 (TRANSITION OR TRANSITIONS)
L14         16 L13 AND TRANSITION

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L14  ANSWER 1 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Transition metal catalyzed preparation of Grignard
     compounds

L14  ANSWER 2 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Catalyst composition comprising group VIII metal and bidentate
     phosphine ligand for preparation of polyketones

L14  ANSWER 3 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Reactivity of ether- and amine-complexed dimers and tetramers of
     alkyllithiums towards triphenylmethane

L14  ANSWER 4 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   High-yield low-cost preparation of metallocene compound by rection of
     metallocene dihalide with Grignard reagent

L14  ANSWER 5 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Supported diols, ligands containing two phosphorus atoms, and
     transition-metal complexes for catalysts

L14  ANSWER 6 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Stabilizer for (fluoroaryl)borane compound and methods of stabilizing and
     crystallizing (fluoroaryl)borane compound

L14  ANSWER 7 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Delivery and scavenging agents for combinatorial synthesis of
     organometallic compds.

L14  ANSWER 8 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Method for preparation of vanadium metallocene

L14  ANSWER 9 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Transition metal complexes, catalysts for olefin
     polymerization, and process for producing olefin polymers

L14  ANSWER 10 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Organoarsenic ligands as potential f-transition
     metal ion extractants. Part 1. The synthesis of some new
     organofluorine arsonic and arsinic acids

L14  ANSWER 11 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Process and catalysts for the preparation of bisaryl compounds by the
     coupling of arylmagnesium chlorides with aryl chlorides in the presence of
     phosphine ligands

L14  ANSWER 12 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Synthesis and characterization of chiral bimetallic complexes bearing hard
     and soft Lewis acidic sites

L14  ANSWER 13 OF 16  CAPLUS  COPYRIGHT 2001 ACS
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TI   Process for the preparation of 5-(2,4-difluorophenyl)salicylic acid

L14  ANSWER 14 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Mechanistic studies of the thermolytic and photolytic rearrangement of
     [bis(diphenylphosphino)ethane]bis(neophyl)platinum(II)

L14  ANSWER 15 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Reactions of organometallic compounds catalyzed by transition
     metal complexes. XIII. Comparison of activities of organometallic
     compounds in aryldemetalation catalyzed by palladium complexes

L14  ANSWER 16 OF 16  CAPLUS  COPYRIGHT 2001 ACS
TI   Catalysts for polymerization of olefins


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L2          8127 S L1 AND 1/NC
L3          6337 S L2 AND C/ELS
L4          5469 S L3 AND 1/MG
L5          5171 S L4 AND 1/M
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L7          4938 S L6 NOT (PHTHALO? OR PORPH?)
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L13           79 S L12 AND METAL
L14           16 S L13 AND TRANSITION

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L17          8 L16 AND TRANSITION

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L17  ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:        2001:17097  CAPLUS
DOCUMENT NUMBER:         134:207854
TITLE:                   Transition metal catalyzed preparation of
                         Grignard compounds
AUTHOR(S):               Bogdanovic, Borislav; Schwickardi, Manfred
CORPORATE SOURCE:        Max-Planck-Institut fur Kohlenforschung, Mulheim an
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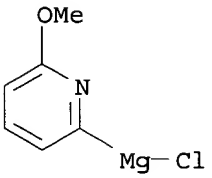
der Ruhr, 45470, Germany
SOURCE: Angew. Chem., Int. Ed. (2000), 39(24), 4610-4612
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method is introduced for the prepn. of several **Grignard** compds. that are considered to be difficult to prep. and the possible catalytic role of the **transition** metals are discussed. Thus, FeCl2-catalyzed and MgCl2-cocatalyzed **Grignard** reaction of 1-chloronaphthalene with magnesium in THF gave 82.3% 1-naphthylmagnesium chloride.
IT **328553-25-9P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**transition** metal catalyzed prepn. of **Grignard** compds.)
RN 328553-25-9 CAPLUS
CN Magnesium, chloro(6-methoxy-2-pyridinyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 16
REFERENCE(S): (1) Aleandri, L; Adv Mater 1996, V8, P600 CAPLUS
(2) Aleandri, L; Chem Eur J 1997, V3, P1710 CAPLUS
(3) Aleandri, L; Chem Eur J 1997, V3, P1710 CAPLUS
(4) Aleandri, L; Chem Mater 1995, V7, P1153 CAPLUS
(5) Bogdanovic, B; WO 9802443 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:819386 CAPLUS
DOCUMENT NUMBER: 132:58385
TITLE: High-yield low-cost preparation of metallocene compound by rection of metallocene dihalide with **Grignard** reagent
INVENTOR(S): Kitagawa, Yuichi; Otaka, Koji; Kubo, Tomoya; Takeichi, Eiji
PATENT ASSIGNEE(S): Asahi Kasei Kogyo K. K., Japan
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9967260	A1	19991229	WO 1998-JP2819	19980624
W: ES, US				
US 6175025	B1	20010116	US 2000-486273	20000223

PRIORITY APPLN. INFO.: JP 1996-345421 A 19961225
JP 1997-354685 A 19971224
WO 1998-JP2819 W 19980624

AB Disubstituted metallocene compds. with high quality can be prepd. by the reaction of a metallocene dihalide with a **Grignard** reagent of formula RMgX (R: (substituted) aryl, benzyl, or diarylphosphinomethylene;

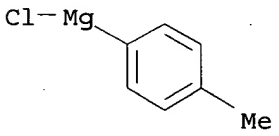
X: halogen) under specified conditions. Thus, di-p-tolylbis(.eta.-cyclopentadienyl)titanium was prepd. by reaction of p-tolylmagnesium chloride-THF soln. 45 L (1.810 mol/L) with titanocene dichloride-xylene soln. (8817 g/110 L) at (-8.degree.)-(-10.degree.) for 10 h, showing yield 67.0%, Ti content 13.26%, and Mg and Cl residue 1 ppm and 10 ppm, resp.

IT **100-59-4P**, Phenylmagnesium chloride **696-61-7P**, p-Tolylmagnesium chloride **699-19-4P**, p-Methoxyphenylmagnesium chloride **6921-34-2P**, Benzylmagnesium chloride
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**
(prepn. of metallocene compd. by rection of metallocene dihalide with **Grignard** reagent)

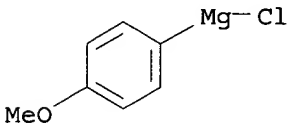
RN 100-59-4 CAPLUS
CN Magnesium, chlorophenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

Ph—Mg—Cl

RN 696-61-7 CAPLUS
CN Magnesium, chloro(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 699-19-4 CAPLUS
CN Magnesium, chloro(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 6921-34-2 CAPLUS
CN Magnesium, chloro(phenylmethyl)- (9CI) (CA INDEX NAME)

Ph—CH_2—Mg—Cl

REFERENCE COUNT: 2
REFERENCE(S): (1) Hoechst Ag; EP 749985 A2 CAPLUS
(2) Hoechst Ag; JP 93085 A 1997

L17 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:412982 CAPLUS
DOCUMENT NUMBER: 131:32047
TITLE: Method for synthesis of organomagnesium compounds using **catalysts**
INVENTOR(S): Bogdanovic, Borislav; Schwickardi, Manfred
PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

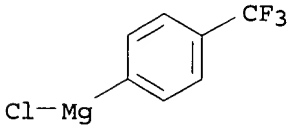
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19757499	A1	19990624	DE 1997-19757499	19971223
WO 9933844	A1	19990708	WO 1998-EP8056	19981210
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1042332	A1	20001011	EP 1998-966289	19981210
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
US 6221285	B1	20010424	US 2000-581874	20000619

PRIORITY APPLN. INFO.: DE 1997-19757499 A 19971223
WO 1998-EP8056 W 19981210
OTHER SOURCE(S): CASREACT 131:32047

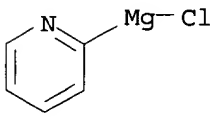
AB The prepn. of organomagnesium compds. from reaction of arom. org. chloride with magnesium in the presence of **transition** metal **catalysts** is reported. Thus, activation of magnesium powder with EtBr in THF followed by Fe(OEt)2 catalyzed reaction with 1,3-dibenzyl-2-(4-chlorophenyl)-imidazolidine gave organomagnesium compd. which on silylation with Me3SiCl gave 94.3% 1,3-dibenzyl-2-(4-trimethylsilylphenyl)-imidazolidine.

IT **2923-41-3P 52770-24-8P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(method for synthesis of organomagnesium compds. using **transition** metal complex **catalysts**)

RN 2923-41-3 CAPLUS
CN Magnesium, chloro[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 52770-24-8 CAPLUS
CN Magnesium, chloro-2-pyridinyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14
REFERENCE(S):
(1) Anon; EP 0001861 A1 CAPLUS
(2) Anon; EP 0014983 A2 CAPLUS
(3) Anon; DE 19605778 C1 CAPLUS
(4) Anon; DE 19628159 A1 CAPLUS
(5) Anon; DE 2749983 A1 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:59159 CAPLUS
DOCUMENT NUMBER: 128:128143

TITLE: Method for synthesizing **Grignard** compounds using **catalysts**
INVENTOR(S): Bogdanovic, Borislav; Schwickardi, Manfred
PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19628159	A1	19980115	DE 1996-19628159	19960712
CA 2260023	AA	19980122	CA 1997-2260023	19970703
WO 9802443	A1	19980122	WO 1997-EP3516	19970703
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 915889	A1	19990519	EP 1997-931761	19970703
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
JP 2000514444	T2	20001031	JP 1998-505568	19970703
US 6117372	A	20000912	US 1999-214369	19990105

PRIORITY APPLN. INFO.: DE 1996-19628159 A 19960712
WO 1997-EP3516 W 19970703
OTHER SOURCE(S): CASREACT 128:128143

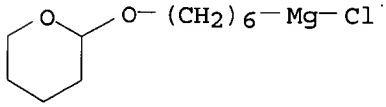
AB The prepn. of **Grignard** reagent of arom. chloro compds. by the reaction of magnesium metal in the presence of **transition** metal/magnesium chloride complex as **catalyst** is described. Thus, activation of magnesium with Et bromide in THF followed by treatment with FeCl2/MgCl2 in THF gave [FeMgCl.cntdot.0.5 MgCl2] **catalyst**. Reaction of 1-chloronaphthalene with magnesium in THF gave 62% 1-naphthylmagnesium chloride.

IT **100-59-4P**, Phenylmagnesium chloride **69049-76-9P**, 6-(Tetrahydropyran-2-yloxy)hexylmagnesium chloride **104888-35-9P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(method for synthesizing **Grignard** compds. using **catalysts**)

RN 100-59-4 CAPLUS
CN Magnesium, chlorophenyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

Ph—Mg—Cl

RN 69049-76-9 CAPLUS
CN Magnesium, chloro[6-[(tetrahydro-2H-pyran-2-yl)oxy]hexyl]- (9CI) (CA INDEX NAME)

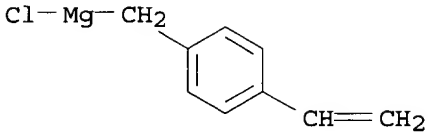


RN 104888-35-9 CAPLUS
CN Magnesium, chloro[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87532-75-0

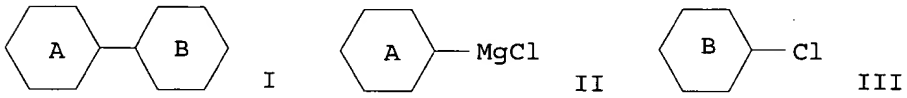
CMF C9 H9 Cl Mg



L17 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:478335 CAPLUS
DOCUMENT NUMBER: 122:239312
TITLE: Process and **catalysts** for the preparation of bisaryl compounds by the coupling of arylmagnesium chlorides with aryl chlorides in the presence of phosphine ligands
INVENTOR(S): Poetsch, Eike; Meyer, Volker
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4326169	A1	19950209	DE 1993-4326169	19930804

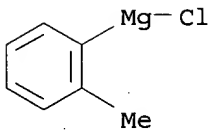
OTHER SOURCE(S): CASREACT 122:239312; MARPAT 122:239312
GI



AB The title compds. [I; rings A and B = (un)substituted Ph, naphthyl] (e.g., 2-methylbiphenyl), useful as liq. crystals, are prepd. in high yield and selectivity by the coupling of aryl **Grignard** reagents (II) (e.g., o-tolylmagnesium chloride) with aryl chlorides (III) (e.g., PhCl) in the presence of a **transition** metal **catalysts** (e.g., NiCl2) and phosphine R12PR2 [R1 = (un)branched alkyl, alkoxy, cycloalkyl; R2 = R1, R3PR12; R3 = C1-10 alkylene] ligands (e.g., tricyclohexylphosphine).

IT **33872-80-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**
(process and **catalysts** for the prepn. of bisaryl compds. by the coupling of arylmagnesium chlorides with aryl chlorides in the presence of phosphine ligands)

RN 33872-80-9 CAPLUS
CN Magnesium, chloro(2-methylphenyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:572245 CAPLUS
DOCUMENT NUMBER: 117:172245
TITLE: Hyperbranched polyphenylenes
AUTHOR(S): Kim, Young H.; Webster, Owen W.
CORPORATE SOURCE: Du Pont Cent. Res. and Dev., Wilmington, DE, 19880-0328, USA
SOURCE: Macromolecules (1992), 25(21), 5561-72
CODEN: MAMOBX; ISSN: 0024-9297
DOCUMENT TYPE: Journal
LANGUAGE: English

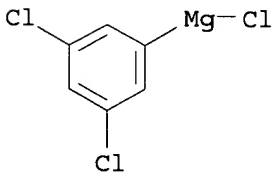
AB Highly branched polyphenylenes were synthesized from AB2 type monomers, e.g., (3,5-dibromophenyl)boronic acid and 3,5-dihalophenyl **Grignard** reagents. These monomers were polymd. by Pd(0) and Ni(II)-catalyzed aryl-aryl coupling reactions, resp. Polymers with mol. wts. 5,000-35,000 and polydispersities <1.5 were obtained. They were thermally stable to 550.degree. and sol. in many org. solvents. 13C NMR indicated .apprx.70% branching efficiency. A Tg at 236.degree. was obsd., but the polymer was brittle and did not form films. The melt flow viscosity of polystyrene was reduced, and the modulus was improved as a bromo functional hyperbranched polymer was added. The bromo polymer was metalated with butyllithium. The resulting lithio polymer reacted with various electrophiles to provide polymers with other end groups which control soly. as well as thermal properties. Some of these derivs. were used as multifunctional initiators to prep. star polymers, for example, via ring-opening polymn. of propiolactone and anionic polymn. of Me methacrylate.

IT **125128-37-2P 143172-68-3P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(hyperbranched, prepn. and properties of)

RN 125128-37-2 CAPLUS
CN Magnesium, chloro(3,5-dichlorophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

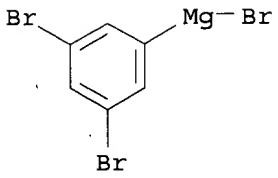
CRN 124963-68-4
CMF C6 H3 Cl3 Mg



RN 143172-68-3 CAPLUS
CN Magnesium, bromo(3,5-dibromophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

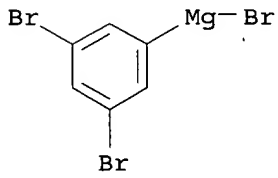
CRN 38440-05-0
CMF C6 H3 Br3 Mg



IT **143172-68-3DP**, reaction products with butyllithium and electrophiles
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. and characterization of)
RN 143172-68-3 CAPLUS
CN Magnesium, bromo(3,5-dibromophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 38440-05-0
CMF C6 H3 Br3 Mg



L17 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:78260 CAPLUS
DOCUMENT NUMBER: 112:78260
TITLE: Hyperbranched polyarylene
INVENTOR(S): Kim, Young H.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4857630	A	19890815	US 1987-129151	19871207
US 5070183	A	19911203	US 1989-341072	19890420
US 5145930	A	19920908	US 1991-745300	19910815

PRIORITY APPLN. INFO.: US 1987-129151 19871207
US 1989-341072 19890420

AB Sol. hyperbranched polyarylenes are prepd. which have .gtoreq.1 branch per 10 repeating monomer units, (n-1)x + 1 functional groups selected from Br, I, or Cl (n = no. of halogen atoms per mol.; x = no. of repeating monomer units), and spherical diam. <1000 .ANG.. Thus, 9.44 g 1,3,5-Br3C6H3 was reacted with 19.4 mL 1.55M BuLi in hexane at -78.degree. under N, 30 mL of B(OMe)3 in 300 mL Et2O added, the reaction mixt. warmed to room temp. overnight, and further reacted with 6N HCl, producing 8.49 g 3,5-dibromobenzeneboronic acid, 2.98 g of which (dissolved in 5 mL Et2O) was polymd. in a mixt. of 50 mL xylene, 20 mL 1M aq. Na2CO3, and 30.8 mg Pd(PPh3)4 over 11 h at 88.degree. (reflux), producing a polymer having

no.-av. mol. wt. 5000 and glass **transition** temp. 237.6.degree..

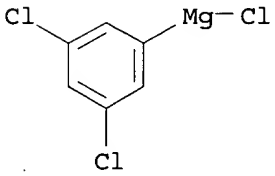
IT **125128-37-2P**
RL: **PREP (Preparation)**
(hyperbranched, manuf. of)

RN 125128-37-2 CAPLUS

CN Magnesium, chloro(3,5-dichlorophenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

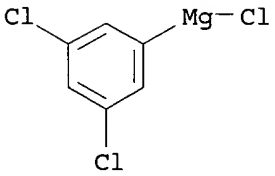
CRN 124963-68-4
CMF C6 H3 Cl3 Mg



IT **124963-68-4P**
RL: RCT (Reactant); **PREP (Preparation)**
(prepn. and polymn. of)

RN 124963-68-4 CAPLUS

CN Magnesium, chloro(3,5-dichlorophenyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2001 ACS

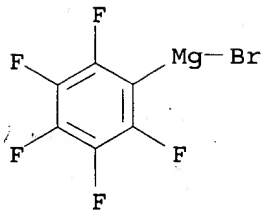
ACCESSION NUMBER: 1969:470669 CAPLUS
DOCUMENT NUMBER: 71:70669
TITLE: New synthesis of perfluoroaromatic **Grignard** reagents
AUTHOR(S): Respess, William L.; Tamborski, Christ
CORPORATE SOURCE: Air Force Mater. Lab., Wright-Patterson Air Force Base, Ohio, USA
SOURCE: J. Organometal. Chem. (1969), 18(2), 263-74
CODEN: JORCAI
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Perfluoroaryl-magnesium compds. (I) were synthesized directly from completely fluorinated aryl compounds (e.g., hexafluorobenzene, decafluorobiphenyl, octafluorotoluene and octafluoronaphthalene) through their reaction with EtMgBr and certain **transition** metal halides ($CoCl_2$, $FeCl_2$, $NiCl_2$, CuI, $TiCl_4$, $PdCl_2$, $RhCl_3$ and AgCl). The yields of the I vary with the type of perfluoroaryl substrate and metal halide. I thus formed undergo typical **Grignard** reactions.

IT **879-05-0P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(prepn. of)

RN 879-05-0 CAPLUS

CN Magnesium, bromo(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)


F
F
Mg— Br
F
F
F

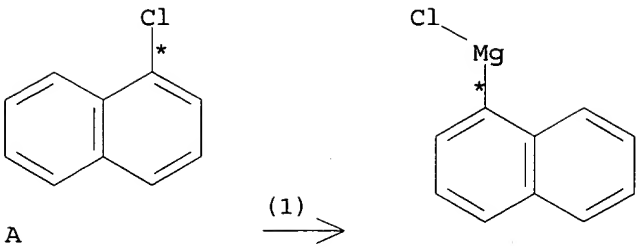
=> D ACC 128:128143 ALL

ANSWER 1 CASREACT COPYRIGHT 2001 ACS
AN 128:128143 CASREACT
TI Method for synthesizing Grignard compounds using catalysts
IN Bogdanovic, Borislav; Schwickardi, Manfred
PA Studiengesellschaft Kohle m.b.H., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07F003-02
ICA C07F019-00; C07F011-00; C07C025-18; C07B049-00; C07C013-58
ICI B01J027-138, B01J103-60; B01J027-138, B01J103-54; B01J027-138, B01J103-48; B01J027-138, B01J103-50; B01J031-30, B01J103-19
CC 29-3 (Organometallic and Organometalloidal Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19628159	A1	19980115	DE 1996-19628159	19960712
	CA 2260023	AA	19980122	CA 1997-2260023	19970703
	WO 9802443	A1	19980122	WO 1997-EP3516	19970703
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 915889	A1	19990519	EP 1997-931761	19970703
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
	JP 2000514444	T2	20001031	JP 1998-505568	19970703
	US 6117372	A	20000912	US 1999-214369	19990105
PRAI	DE 1996-19628159	19960712			
	WO 1997-EP3516	19970703			

AB The prepn. of Grignard reagent of arom. chloro compds. by the reaction of magnesium metal in the presence of transition metal/magnesium chloride complex as catalyst is described. Thus, activation of magnesium with Et bromide in THF followed by treatment with FeCl2/MgCl2 in THF gave [FeMgCl.cntdot.0.5 MgCl2] catalyst. Reaction of 1-chloronaphthalene with magnesium in THF gave 62% 1-naphthylmagnesium chloride.
ST Grignard reaction catalyst formation; arom chloride Grignard reaction catalyst formation; transition metal magnesium chloride Grignard catalyst
IT Grignard reagents
RL: SPN (Synthetic preparation); PREP (Preparation)
(method for synthesizing Grignard compds. using catalysts)
IT 74-96-4, Ethyl bromide 1499-10-1, 9,10-Diphenylanthracene 7758-94-3, Iron dichloride 7773-01-5, Manganese dichloride 7786-30-3, Magnesium dichloride, uses 10025-73-7, Chromium trichloride 10241-05-1, Molybdenum pentachloride
RL: CAT (Catalyst use); USES (Uses)
(method for synthesizing Grignard compds. using catalysts)
IT 90-13-1, 1-Chloronaphthalene 108-90-7, Chlorobenzene, reactions 753-89-9, Neopentyl chloride 2009-84-9, 1-Tetrahydropyranyloxy-6-chlorohexane 7439-95-4, Magnesium, reactions 9002-86-2, Polyvinyl chloride 29296-32-0
RL: RCT (Reactant)
(method for synthesizing Grignard compds. using catalysts)
IT 100-59-4P, Phenylmagnesium chloride 13132-23-5P, Neopentylmagnesium chloride 69049-76-9P, 6-(Tetrahydropyran-2-yloxy)hexylmagnesium chloride 90767-34-3P, 1-Naphthylmagnesium chloride 104888-35-9P 201871-38-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(method for synthesizing Grignard compds. using catalysts)

RX(1) OF 1 A ===> B



RX(1) RCT A 90-13-1
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PRO B 90767-34-3
CAT 74-96-4 EtBr, 7758-94-3 FeCl2, 7786-30-3 MgCl2
SOL 109-99-9 THF

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FULL ESTIMATED COST	6.15	125.97

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 9, 2001 (20011109/UP).

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FULL ESTIMATED COST	0.00	125.97

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*** FILE CONTAINS 7,688,486 SUBSTANCES ***

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> s l21/prep
          6685 L21
       2798213 PREP/RL
L22         465 L21/PREP
                (L21 (L) PREP/RL)

=> d ti 400-410

L22  ANSWER 400 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Crystal-chemical characteristics of glauconite group minerals in the
     solution of problems of paleogeography, geochronology, and the evolution
     of sediment accumulation

L22  ANSWER 401 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Interstratified chlorite-expandable layer clay minerals in the green tuff
     formation

L22  ANSWER 402 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Experimental formation of interstratified minerals

L22  ANSWER 403 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Further information related to the origin of glauconite

L22  ANSWER 404 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Genesis of middle Bartonian clays of the Basin of Paris

L22  ANSWER 405 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Sequential deposition of authigenic marine minerals around New Zealand.
     Paleoenvironmental significance

L22  ANSWER 406 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Diagenetic glauconites in Bulgaria

L22  ANSWER 407 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Abyssal palygorskite clays of the East Atlantic and their genetic relation
     to alkaline volcanism (according to data of the second and 14th voyages of
     the scientific-research ship Glomar Challenger)

L22  ANSWER 408 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Lowering the content of alkalies in the clayey component [for cement
     production] by flotation

L22  ANSWER 409 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Early weathering crusts of the northern Onega bauxite-containing region
     and their relation to bauxite deposits

L22  ANSWER 410 OF 465  CAPLUS  COPYRIGHT 2001 ACS
TI   Importance of marine coprolites in mineralization processes


=> s l21 and alloy/ti
          6685 L21
        135822 ALLOY/TI
        176228 ALLOYS/TI
        310281 ALLOY/TI
                ((ALLOY OR ALLOYS)/TI)
L23       232 L21 AND ALLOY/TI

=> d ti 100-110

L23  ANSWER 100 OF 232  CAPLUS  COPYRIGHT 2001 ACS
TI   Surface pattern near grain boundaries in aluminum-1 magnesium silicide-0.4
     mass% silicon alloy deformed in tension
```

L23 ANSWER 101 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Aluminum **alloy** resistant to heat and wear

L23 ANSWER 102 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Manufacture of heat-resistant aluminum **alloy** by continuous casting

L23 ANSWER 103 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Effect of silicon on mechanical properties of sheets of aluminum-1% magnesium silicide-0.6% copper **alloy**

L23 ANSWER 104 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Aluminum **alloy** materials for injection molds

L23 ANSWER 105 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Two-stage press molding of powdered aluminum **alloys**

L23 ANSWER 106 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Powder-forged aluminum-silicon series **alloy** parts resistant to wear and haing low thermal expansion coefficient

L23 ANSWER 107 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Quasicrystalline and related crystalline phases in a rapidly solidified 2024-2Li aluminum **alloy**

L23 ANSWER 108 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Aluminum-silicon **alloys** for sintered composites having high abrasion resistance and low thermal expansion

L23 ANSWER 109 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Wear behavior of an aluminum **alloy**-dispersed oxide particle composite

L23 ANSWER 110 OF 232 CAPLUS COPYRIGHT 2001 ACS
TI Aging effect of the matrix-reinforcement interface on the aging responses of an aluminum 6061 **alloy** reinforced with 20 vol.% silicon carbide particulates

=> d ibib abs hitsr 108 104
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CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
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DMAX -------- MAX, delimited for post-processing
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FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers; SCAN must be entered on the same line as the DISPLAY, e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, IPC, and NCL

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
its structure diagram
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

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L23 ANSWER 108 OF 232 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:212332 CAPLUS
DOCUMENT NUMBER: 114:212332
TITLE: Aluminum-silicon **alloys** for sintered composites having high abrasion resistance and low thermal expansion
INVENTOR(S): Otsuki, Masato; Kono, Toru; Kakehashi, Shinichiro
PATENT ASSIGNEE(S): Mitsubishi Metal Corp., Japan; Mitsubishi Heavy Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02285043	A2	19901122	JP 1989-107043	19890426
JP 2787703	B2	19980820		

AB The sintered or powder-forged composites are manufd. from the Al alloy contg. Si 35-45, Cu and Mg 0.5-5 each, Fe 0.1-1, and optionally Zr 0.1-2%, and include 5-20% dispersed Al2O3 of av. particle size 5-20 .mu.m as well as Si primary crystals of av. particle size 2-15 .mu.m. The composites are suitable for manuf. of vanes in rotary compressors.
IT **133755-62-1 133779-70-1 133779-71-2**
133779-72-3 133779-73-4 133779-74-5

133779-75-6 133779-76-7 133779-77-8
133779-78-9 133779-79-0 133779-80-3
133779-81-4 133799-90-3
RL: USES (Uses)
(sintered, with abrasion resistance and low thermal expansion)

RN 133755-62-1 CAPLUS
CN Aluminum alloy, base, Al 50,Si 36,Al2O3 10,Cu 3,Mg 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	50	7429-90-5
Si	36	7440-21-3
Al2O3	10	1344-28-1
Cu	3	7440-50-8
Mg	1	7439-95-4
Fe	0.5	7439-89-6

RN 133779-70-1 CAPLUS
CN Silicon alloy, base, Si 45,Al 41,Al2O3 10,Cu 2.5,Mg 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	45	7440-21-3
Al	41	7429-90-5
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Fe	0.5	7439-89-6

RN 133779-71-2 CAPLUS
CN Silicon alloy, base, Si 50,Al 37,Al2O3 10,Mg 1,Zr 1,Cu 0.5,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	50	7440-21-3
Al	37	7429-90-5
Al2O3	10	1344-28-1
Mg	1	7439-95-4
Zr	1	7440-67-7
Cu	0.5	7440-50-8
Fe	0.5	7439-89-6

RN 133779-72-3 CAPLUS
CN Aluminum alloy, base, Al 44,Si 40,Al2O3 10,Cu 5,Mg 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	44	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	5	7440-50-8
Mg	1	7439-95-4
Fe	0.5	7439-89-6

RN 133779-73-4 CAPLUS
CN Aluminum alloy, base, Al 46,Si 40,Al2O3 10,Cu 2.5,Zr 1,Fe 0.5,Mg 0.5 (9CI)

(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	46	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Zr	1	7440-67-7
Fe	0.5	7439-89-6
Mg	0.5	7439-95-4

RN 133779-74-5 CAPLUS
CN Aluminum alloy, base, Al 42,Si 40,Al2O3 10,Mg 5,Cu 2.5,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	42	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Mg	5	7439-95-4
Cu	2.5	7440-50-8
Fe	0.5	7439-89-6

RN 133779-75-6 CAPLUS
CN Aluminum alloy, base, Al 45,Si 40,Al2O3 10,Cu 2.5,Mg 1,Zr 1,Fe 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	45	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Zr	1	7440-67-7
Fe	0.1	7439-89-6

RN 133779-76-7 CAPLUS
CN Aluminum alloy, base, Al 44,Si 40,Al2O3 10,Cu 2.5,Fe 1,Mg 1,Zr 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	44	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Fe	1	7439-89-6
Mg	1	7439-95-4
Zr	1	7440-67-7

RN 133779-77-8 CAPLUS
CN Aluminum alloy, base, Al 46,Si 40,Al2O3 10,Cu 2.5,Mg 1,Fe 0.5,Zr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Al	46	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Fe	0.5	7439-89-6
Zr	0.1	7440-67-7

RN 133779-78-9 CAPLUS
CN Aluminum alloy, base, Al 50,Si 40,Al2O3 5,Cu 2.5,Mg 1,Zr 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	50	7429-90-5
Si	40	7440-21-3
Al2O3	5	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Zr	1	7440-67-7
Fe	0.5	7439-89-6

RN 133779-79-0 CAPLUS
CN Silicon alloy, base, Si 40,Al 35,Al2O3 20,Cu 2.5,Mg 1,Zr 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Si	40	7440-21-3
Al	35	7429-90-5
Al2O3	20	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Zr	1	7440-67-7
Fe	0.5	7439-89-6

RN 133779-80-3 CAPLUS
CN Aluminum alloy, base, Al 45,Si 40,Al2O3 10,Cu 2.5,Mg 1,Zr 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	45	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Mg	1	7439-95-4
Zr	1	7440-67-7
Fe	0.5	7439-89-6

RN 133779-81-4 CAPLUS
CN Aluminum alloy, base, Al 46,Si 40,Al2O3 10,Cu 2.5,Mg 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	46	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8

Mg	1	7439-95-4
Fe	0.5	7439-89-6

RN 133799-90-3 CAPLUS
CN Aluminum alloy, base, Al 44,Si 40,Al2O3 10,Cu 2.5,Zr 2,Mg 1,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	44	7429-90-5
Si	40	7440-21-3
Al2O3	10	1344-28-1
Cu	2.5	7440-50-8
Zr	2	7440-67-7
Mg	1	7439-95-4
Fe	0.5	7439-89-6

L23 ANSWER 104 OF 232 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:64913 CAPLUS
DOCUMENT NUMBER: 116:64913
TITLE: Aluminum **alloy** materials for injection molds
INVENTOR(S): Sano, Hideo; Okubo, Yoshimasa
PATENT ASSIGNEE(S): Sumitomo Metal Mining Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03100137	A2	19910425	JP 1989-235821	19890913

AB Wear-resistant molds for injection molding of plastics are manufd. from a powd. Al alloy contg. Si 5-11.5, Cu 0.5-10, ceramic particles (e.g., Al2O3 or SiC) 0.5-5, and optionally Mg 0.3-6, and Fe, Mn, and/or Ni 0.3-6% by hot isostatic pressing, and heat treating the pressed compact to disperse ceramic and/or intermetallic compd. grains (av. diam. 0.3-10 .mu.m) in its microstructure. Thus, an injection mold from the Al alloy contg. Si 5.1, Cu 3.0, and SiC 3.0% and having the dispersed ceramic grains (av. diam. 1.8 .mu.m) after heat treatment showed Brinell hardness 78 (at 150.degree.), tensile strength 34 kg/mm2 (at 150.degree.), and Charpy impact value 2.0 kg/cm2.
IT **138543-29-0 138543-35-8 138543-39-2**
RL: USES (Uses)
(molds, wear resistance of, dispersed ceramic and/or intermetallic compd. grains effect on, for plastic injection molding)
RN 138543-29-0 CAPLUS
CN Aluminum alloy, base, Al 86,Si 8.5,Al2O3 2.2,Cu 2,Mg 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	86	7429-90-5
Si	8.5	7440-21-3
Al2O3	2.2	1344-28-1
Cu	2	7440-50-8
Mg	1	7439-95-4

RN 138543-35-8 CAPLUS
CN Aluminum alloy, base, Al 83,Si 8.1,Cu 3.1,Mn 2.9,Mg 2.2,Al2O3 1 (9CI) (CA

INDEX NAME)

Component	Component Percent	Component Registry Number
Al	83	7429-90-5
Si	8.1	7440-21-3
Cu	3.1	7440-50-8
Mn	2.9	7439-96-5
Mg	2.2	7439-95-4
Al2O3	1	1344-28-1

RN 138543-39-2 CAPLUS
CN Aluminum alloy, base, Al 80,Si 7.8,Al2O3 3.5,Mn 3.4,Cu 2.9,Mg 1.4,Ni 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Al	80	7429-90-5
Si	7.8	7440-21-3
Al2O3	3.5	1344-28-1
Mn	3.4	7439-96-5
Cu	2.9	7440-50-8
Mg	1.4	7439-95-4
Ni	1	7440-02-0

```
=> s activated magnesium
        357853 ACTIVATED
        300924 MAGNESIUM
            79 MAGNESIUMS
        300961 MAGNESIUM
                  (MAGNESIUM OR MAGNESIUMS)
L1         366 ACTIVATED MAGNESIUM
                  (ACTIVATED(W)MAGNESIUM)

=> s l1 and mechanical
        183278 MECHANICAL
            12 MECHANICALS
        183289 MECHANICAL
                  (MECHANICAL OR MECHANICALS)
        409793 MECH
        506272 MECHANICAL
                  (MECHANICAL OR MECH)
L2           9 L1 AND MECHANICAL

=> d ti 1-9

L2   ANSWER 1 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   A Mossbauer study of mechanically activated MgFe2O4

L2   ANSWER 2 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Effect of mechanochemical activation on catalytic transformations of
     n-dodecane in the presence of oxygen

L2   ANSWER 3 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   New syntheses with magnesium hydride. Part 1. Hydromagnesiation of
     .alpha.-olefins to magnesium-dialkyls

L2   ANSWER 4 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   A model for the regulation of actin-activated magnesium
     -myosin ATPase activity: inhibition of the formation of actin-myosin
     complex by IMP

L2   ANSWER 5 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Mechanical activation of magnesium turnings for the preparation
     of reactive Grignard reagents

L2   ANSWER 6 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Differences between the dissolution and the decomposition kinetics of
     mechanically activated magnesium hydroxide

L2   ANSWER 7 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Surface properties and hydriding of magnesium mechanical alloys

L2   ANSWER 8 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Reaction of highly active magnesium with isoprene, myrcene, ocimene, and
     piperylene

L2   ANSWER 9 OF 9  CAPLUS  COPYRIGHT 2001 ACS
TI   Infrared spectroscopic and electron paramagnetic resonance study of
     mechanical activation of magnesium oxide powders


=> d ibib abs hitstr 5

L2   ANSWER 5 OF 9  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:         1991:42844  CAPLUS
DOCUMENT NUMBER:          114:42844
TITLE:                    Mechanical activation of magnesium turnings
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                          for the preparation of reactive Grignard reagents
AUTHOR(S):                Baker, Karen V.; Brown, John M.; Hughes, Nigel;
                          Skarnulis, A. Jerome; Sexton, Ann
CORPORATE SOURCE:         Dyson Perrins Lab., Oxford, OX1 3QY, UK
SOURCE:                   J. Org. Chem. (1991), 56(2), 698-703
                          CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
OTHER SOURCE(S):          CASREACT 114:42844
AB   Preactivation of magnesium by dry stirring in an inert atm. is highly
     beneficial for the clean synthesis of reactive allylic or benzylic
     organomagnesium chlorides.  This procedure routinely produces 0.4 M solns.
     of the Grignard reagent in di-Et ether free from coupling products.  The
     purity may be directly assayed by 13C NMR spectroscopy.  By using spin
     satn. transfer techniques, the rate const. for interconversion of the
     enantiomers of (1-phenyl-2-methylpropyl)magnesium chloride in Et2O at
     25.degree. was shown to be <0.2 s-1.  Electron microscopy was used to
     define the surface changes occurring during the dry stirring of magnesium
     turnings.


=> s l1 and grinding
         45346 GRINDING
           160 GRINDINGS
         45447 GRINDING
                 (GRINDING OR GRINDINGS)
L3           3 L1 AND GRINDING

=> d ti 1-3

L3   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2001 ACS
TI   Differences between the dissolution and the decomposition kinetics of
     mechanically activated magnesium hydroxide

L3   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2001 ACS
TI   Activated magnesium oxide catalysts

L3   ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2001 ACS
TI   Titanium-activated magnesium borate phosphors


=> s l1 and powder
        372260 POWDER
        124038 POWDERS
        426907 POWDER
                 (POWDER OR POWDERS)
        162077 POWD
           249 POWDS
        162206 POWD
                 (POWD OR POWDS)
        530953 POWDER
                 (POWDER OR POWD)
L4          31 L1 AND POWDER

=> s l4 and magnesium/ti
         83068 MAGNESIUM/TI
            14 MAGNESIUMS/TI
         83080 MAGNESIUM/TI
                 ((MAGNESIUM OR MAGNESIUMS)/TI)
L5          23 L4 AND MAGNESIUM/TI

=> d ti 1-23

L5   ANSWER 1 OF 23  CAPLUS  COPYRIGHT 2001 ACS
```

TI Oxygen absorbent compositions containing supported **activated magnesium**

L5 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Production of **activated magnesium**

L5 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Manufacture of **magnesium** spinel-based refractory bricks

L5 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Synthesis of nanometric-size **magnesium** nitride by the nitriding of pre-**activated magnesium powder**

L5 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI The preparation of finely divided metal **powders** and transition metal complexes using "organically solvated" **magnesium**

L5 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI The **magnesium** hydride system for heat storage and cooling

L5 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Finely divided, highly reactive **magnesium** and its use

L5 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Evidence for heterolytic dissociation of hydrogen on the surface of thermally **activated magnesium** oxide **powders**

L5 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Formation of manganese(4+) centers in **magnesium** oxide **powder** due to nitrobenzene treatment in liquid phase

L5 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Infrared spectroscopic and electron paramagnetic resonance study of mechanical activation of **magnesium** oxide **powders**

L5 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Activated metals. A procedure for the preparation of **activated magnesium** and zinc

L5 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Improvements in **magnesium** aluminate gallate phosphor

L5 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Green-emitting manganese-**activated magnesium** gallate phosphors

L5 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Green-emitting manganese-**activated magnesium** aluminum gallate phosphors

L5 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Photoluminescence of europium-**activated magnesium** silicon nitride ($MgSiN_2$)

L5 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Activated metals. IV. Preparation and reactions of highly reactive **magnesium** metal

L5 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI **Magnesium** sulfite-supported catalysts for ethylene polymerization

L5 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Activated metals. I. Preparation of highly reactive **magnesium**

metal

L5 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI ESR of O-2 species adsorbed on thermally **activated magnesium** oxide **powders**

L5 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Firing reaction and luminescence properties of titanium-**activated magnesium** fluoroborate phosphors. III. The crystal structures and luminescence properties

L5 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Luminescence of manganese-**activated magnesium** germanate

L5 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Luminescent properties of silver-**activated magnesium** borate phosphors

L5 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2001 ACS
TI Doubly and triply **activated magnesium** pyrophosphate phosphors

=> d ibib abs hitstr 16 18

L5 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1974:133523 CAPLUS
DOCUMENT NUMBER: 80:133523
TITLE: Activated metals. IV. Preparation and reactions of highly reactive **magnesium** metal
AUTHOR(S): Rieke, Reuben D.; Bales, Stephen E.
CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, N. C., USA
SOURCE: J. Amer. Chem. Soc. (1974), 96(6), 1775-81
CODEN: JACSAT
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The redn. of Mg salts in ethereal solvents with K or Na yield Mg in the form of a fine black **powder**. This Mg metal exhibits unusual reactivity toward alkyl and aryl halides. For example, PhBr reacts with the Mg yielding PhMgBr in a few min. at - 78.degree.. The addn. of KI and other inorganic salts prior to the redn. of the Mg salt yields Mg of even greater reactivity. Reactions of this Mg with a variety of alkyl and aryl halides were studied as well as some of the physical properties of the black Mg **powders**.

L5 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1972:564789 CAPLUS
DOCUMENT NUMBER: 77:164789
TITLE: Activated metals. I. Preparation of highly reactive **magnesium** metal
AUTHOR(S): Rieke, Reuben D.; Hudnall, Phillip M.
CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, N. C., USA
SOURCE: J. Amer. Chem. Soc. (1972), 94(20), 7178-9
CODEN: JACSAT
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Redn. of Mg salts with K-THF or Na-diglyme gave reactive **powd.** Mg from which PhMgBr was prepd. (>60) at - 78.degree. in 30 min. Reaction with aryl chlorides was faster than with Mg turnings. PhMgF was prepd. from active Mg and PhF.

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=> d his

     (FILE 'HOME' ENTERED AT 19:24:52 ON 12 NOV 2001)

     FILE 'CAPLUS' ENTERED AT 19:24:57 ON 12 NOV 2001
L1          366 S ACTIVATED MAGNESIUM
L2            9 S L1 AND MECHANICAL
L3            3 S L1 AND GRINDING
L4           31 S L1 AND POWDER
L5           23 S L4 AND MAGNESIUM/TI

=> s l1 and iodide
        121761 IODIDE
         15748 IODIDES
        128333 IODIDE
                 (IODIDE OR IODIDES)
L6            4 L1 AND IODIDE

=> d ti 1-4

L6   ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2001 ACS
TI   Process for debrominative rearrangements

L6   ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2001 ACS
TI   Activation of magnesium in the synthesis of metal carbonyls. I.
     Synthesis of chromium hexacarbonyl

L6   ANSWER 3 OF 4  CAPLUS  COPYRIGHT 2001 ACS
TI   Activated magnesium and zinc metals

L6   ANSWER 4 OF 4  CAPLUS  COPYRIGHT 2001 ACS
TI   9.alpha.-Halo-1,4,6-pregnatrienes


=> d ibib abs hitstr 3

L6   ANSWER 3 OF 4  CAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:         1976:494418  CAPLUS
DOCUMENT NUMBER:          85:94418
TITLE:                    Activated magnesium and zinc
                          metals
AUTHOR(S):                Hashimoto, Harukichi
CORPORATE SOURCE:         Fac. Eng., Tohoku Univ., Sendai, Japan
SOURCE:                   Yuki Gosei Kagaku Kyokai Shi (1976), 34(4), 246-50
                          CODEN: YGKKAE
DOCUMENT TYPE:            Journal; General Review
LANGUAGE:                 Japanese
AB   Recent advances in the prepn. of activated Mg and Zn metals, synthesis of
     Grignard reagents from various org. halides using the activated
     magnesiums, and the reactions of the activated zincs and org.
     halides, esp. Simmons-Smith reaction with CH2I2 were briefly reviewed with
     28 refs.


=> d it l3

L3   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2001 ACS
IT   Solution rate
        (of magnesium hydroxide in aq. EDTA solns., effect of surface area on)
IT   Kinetics of decomposition
        (of magnesium hydroxide, effect of crystallite size on)
IT   Surface area
        (of magnesium hydroxide, kinetics of dissoln. in aq. EDTA soln. in
```

relation to)
IT Crystallites
(size of, of magnesium hydroxide, kinetics of decompn. in relation to)
IT 1309-42-8, Magnesium hydroxide
RL: RCT (Reactant)
(decompn. and dissoln. of mech. activated, kinetics of)
IT 60-00-4, EDTA, properties
RL: PRP (Properties)
(dissoln. by aq., of magnesium hydroxide, kinetics of, effect of surface area on)

=> s l1 and iodine
98307 IODINE
170 IODINES
98379 IODINE
(IODINE OR IODINES)
L7 7 L1 AND IODINE

=> d ti 1-7

L7 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI A new generation of ylide by use of **activated magnesium**

L7 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Mechanism of Reaction of Geminal Dihalides with Magnesium. Evidence for the Formation of Carbenes from Radical Precursors. The Similarity in Reactions of Geminal Dihalides with Magnesium and LiAlH4

L7 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Process for debrominative rearrangements

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Process for the quantitative microanalysis of hydrogen in organic substances

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Quantitative microdetermination of hydrogen in organic substances

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Microdetermination of hydrogen in organic substances

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Use of **activated magnesium** during the quantitative microdetermination of hydrogen in organic matter

=> d ibib abs hitstr 7

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1972:121246 CAPLUS
DOCUMENT NUMBER: 76:121246
TITLE: Use of **activated magnesium** during the quantitative microdetermination of hydrogen in organic matter
AUTHOR(S): Fedoseev, P. N.; Baidulina, G. O.
CORPORATE SOURCE: Kiev. Tekhnol. Inst. Legk. Prom., Kiev, USSR
SOURCE: Zavod. Lab. (1971), 37(12), 1424-5
CODEN: ZVDLAU
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The org. substance was decompd. in an evacuated tube by Mg activated with I. The catalyst was prepd. by heating 5 g Mg and 0.5 g I in a sealed tube at 500.degree. for 2 hr. The H2O vapors, released during decompn. of the

org. substance, react with MgI2 on the catalyst surface to form HI. Then, HI is decompd. with Mg to form H, and the H is measured gasometrically. Saccharose and anthraquinone were analyzed with an abs. error .ltoreq..+-.0.15%.

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=> d his

     (FILE 'HOME' ENTERED AT 19:24:52 ON 12 NOV 2001)

     FILE 'CAPLUS' ENTERED AT 19:24:57 ON 12 NOV 2001
L1           366 S ACTIVATED MAGNESIUM
L2             9 S L1 AND MECHANICAL
L3             3 S L1 AND GRINDING
L4            31 S L1 AND POWDER
L5            23 S L4 AND MAGNESIUM/TI
L6             4 S L1 AND IODIDE
L7             7 S L1 AND IODINE

=> s grignard and magnesium chloride
          36352 GRIGNARD
            610 GRIGNARDS
          36513 GRIGNARD
                  (GRIGNARD OR GRIGNARDS)
         300924 MAGNESIUM
             79 MAGNESIUMS
         300961 MAGNESIUM
                  (MAGNESIUM OR MAGNESIUMS)
         788771 CHLORIDE
         113674 CHLORIDES
         842679 CHLORIDE
                  (CHLORIDE OR CHLORIDES)
          17703 MAGNESIUM CHLORIDE
                  (MAGNESIUM(W)CHLORIDE)
L8           364 GRIGNARD AND MAGNESIUM CHLORIDE

=> s grinard (l) magnesium chloride
             10 GRINARD
         300924 MAGNESIUM
             79 MAGNESIUMS
         300961 MAGNESIUM
                  (MAGNESIUM OR MAGNESIUMS)
         788771 CHLORIDE
         113674 CHLORIDES
         842679 CHLORIDE
                  (CHLORIDE OR CHLORIDES)
          17703 MAGNESIUM CHLORIDE
                  (MAGNESIUM(W)CHLORIDE)
L9             0 GRINARD (L) MAGNESIUM CHLORIDE

=> s grignard (l) magnesium chloride
          36352 GRIGNARD
            610 GRIGNARDS
          36513 GRIGNARD
                  (GRIGNARD OR GRIGNARDS)
         300924 MAGNESIUM
             79 MAGNESIUMS
         300961 MAGNESIUM
                  (MAGNESIUM OR MAGNESIUMS)
         788771 CHLORIDE
         113674 CHLORIDES
         842679 CHLORIDE
                  (CHLORIDE OR CHLORIDES)
          17703 MAGNESIUM CHLORIDE
```

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                (MAGNESIUM(W)CHLORIDE)
L10         138 GRIGNARD (L) MAGNESIUM CHLORIDE

=> s grigard/ti and l10
              0 GRIGARD/TI
L11           0 GRIGARD/TI AND L10

=> s grignard/ti and l10
           4148 GRIGNARD/TI
             40 GRIGNARDS/TI
           4185 GRIGNARD/TI
                ((GRIGNARD OR GRIGNARDS)/TI)
L12          36 GRIGNARD/TI AND L10
```

L12 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI 2-Alkyl-4,6-dialkylamino-1,3,5-triazines via **Grignard** Alkylation of Cyanuric Chloride: An Aged Reaction Revisited

L12 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Homologation of Protected Hexoses with **Grignard** C1 Reagents

L12 ANSWER 3 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Preliminary studies on addition orientation of 2- dialkylthiomethylene-5,5-dimethyl-1,3-cyclohexadione with **Grignard** reagents

L12 ANSWER 4 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Are bidentate ligands always acting as bidentate? The case of **Grignard** reagents

L12 ANSWER 5 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Elongation of the pentose chain at the terminal carbon atom with **Grignard** C1 reagents. A study of the homologation reaction

L12 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Conjugate addition of **Grignard** reagents to N-(.alpha.,.beta.-unsaturated)acylpyrazoles. Diastereoselective .beta.-alkylation using 3-phenyl-L-menthopyrazole

L12 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Application of CuI to the addition of allylic **Grignard** reagent with carbonyl compounds

L12 ANSWER 8 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Industrial synthesis of 3-chloro-2-methylbiphenyl by non-ligated nickel(II) chloride-catalyzed cross-coupling of aryl **Grignard** reagents with haloarenes

L12 ANSWER 9 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Poly(.epsilon.-caprolactone) catalyzed by yttrium acetylacetone complex and **Grignard** reagent (n-BuMgCl)

L12 ANSWER 10 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Procedure for conversion of **Grignard** compounds with carbonyl compounds and the following hydrolysis

L12 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Method for synthesizing **Grignard** compounds using catalysts

L12 ANSWER 12 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Investigation of the formation reaction and structural characterization of the "platinum **Grignard** reagent" [Pt(MgCl)2(THF)x] by extended x-ray absorption fine structure (EXAFS) and other methods

L12 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Synthesis of a new chiral (.beta.-aminoalkyl)phosphine ligand and its application to a catalytic asymmetric **Grignard** cross-coupling reaction

L12 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI The roles of **Grignard** reagent in the Ziegler-Natta catalyst for propylene polymerization

L12 ANSWER 15 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Studies on stereospecific formation of P-chiral internucleotide linkage: synthesis of all-Rp and all-Sp methylphosphonate pentanucleotide d(MMTrAPMeTPMeTPMeCPMeTAc) via **Grignard** Activated Coupling

L12 ANSWER 16 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Study on highly active catalysts synthesized by using **Grignard** reagent for ethylene polymerization

L12 ANSWER 17 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Inorganic **Grignard** Reagents. Preparation and Their Application for the Synthesis of Highly Active Metals, Intermetallics, and Alloys

L12 ANSWER 18 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Synthesis of 1,2-benzisothiazole 1,1-dioxides via **Grignard** reaction of saccharin salts

L12 ANSWER 19 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Synthesis of haloperidol ethanedithioketal HIV-1 protease inhibitors: **magnesium chloride** facilitated addition of **Grignard** reagents

L12 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Selective preparation of borinic esters from **Grignard** reagents and selected trialkoxyboranes

L12 ANSWER 21 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI The crystal and molecular structure of pentamethylcyclopentadienyl **Grignard** reagent: [Cp*Mg(THF).mu.-Cl]2

L12 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Method for the preparation of di-**Grignard** reagent - phenylenebis(**magnesium chloride**)

L12 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Mechanical activation of magnesium turnings for the preparation of reactive **Grignard** reagents

L12 ANSWER 24 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Effect of copper(I) iodide and **magnesium chloride** on amination of aryl **Grignards** with ketoximes

L12 ANSWER 25 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Preparation of ketones by reaction of **Grignard** reagents with acid halides using lithium tetrahalometallate catalysts

L12 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Influence of **magnesium chloride** on **Grignard** reagent composition in tetrahydrofuran. III

L12 ANSWER 27 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Stereochemistry of addition of allyl **Grignard** reagents to (R)-(+)-pulegone and other .alpha.,.beta.-ethylenic ketones

L12 ANSWER 28 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI A novel, continuous high-yield synthesis of **Grignard** reagents

L12 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI **Magnesium chloride**. One of the factors controlling the mechanism of the reaction between **Grignard** reagents and titanium or zirconium tetrachloride. II

L12 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Ab initio study of the structure and vibrational frequencies of the **Grignard** reagent methylmagnesium chloride

L12 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI New approach to the mechanism of the reaction between benzyl **Grignard** reagents and carbonyl compounds

L12 ANSWER 32 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Rearrangement of the **Grignard** reagent from 5-chloro-1-pentene-5,5-d2

L12 ANSWER 33 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Recovery of anhydrous **magnesium chloride** in the electrolytic production of organolead compounds using a **Grignard** reagent

L12 ANSWER 34 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Organolead compounds from vinylic **magnesium chloride** **Grignard** reagents

L12 ANSWER 35 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI Investigation of the abnormal products from the reaction of 2-thenyl and benzyl **Grignard** reagents by gas chromatography

L12 ANSWER 36 OF 36 CAPLUS COPYRIGHT 2001 ACS
TI A study of the entrainment method for making **Grignard** reagents

=> d 29 ibib abs hitstr

L12 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:15149 CAPLUS
DOCUMENT NUMBER: 108:15149
TITLE: **Magnesium chloride**. One of the factors controlling the mechanism of the reaction between **Grignard** reagents and titanium or zirconium tetrachloride. II
AUTHOR(S): Sobota, Piotr; Utko, Jozef; Janas, Zofia
CORPORATE SOURCE: Inst. Chem., Univ. Wroclaw, Wroclaw, 50383, Pol.
SOURCE: J. Organomet. Chem. (1986), 316(1-2), 19-23
CODEN: JORCAI; ISSN: 0022-328X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Treatment of a Grignard reagent or [MgR2(THF)2] (R = CH2Ph) with MCl4 (M = Ti, Zr) gives [MgCl2(THF)2], which when treated with [MCl4(THF)2] yields [Mg(THF)6][ZrCl6] (I), [Mg(THF)6][ZrCl5(THF)]2 (II), [Mg(THF)6][TiCl5(THF)]2 (III), [(THF)4Mg(.mu.-Cl)2TiCl4] (IV) and [Mg2(.mu.-Cl)3(THF)6][TiCl5(THF)] (V), along with MR4. I and II are insol. in THF, which results in a decrease of the ZrR4 yield. III, IV and V are transient intermediates in the formation of TiR4.

=> d 23 ibib abs hitstr

L12 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:42844 CAPLUS
DOCUMENT NUMBER: 114:42844
TITLE: Mechanical activation of magnesium turnings for the preparation of reactive **Grignard** reagents
AUTHOR(S): Baker, Karen V.; Brown, John M.; Hughes, Nigel; Skarnulis, A. Jerome; Sexton, Ann
CORPORATE SOURCE: Dyson Perrins Lab., Oxford, OX1 3QY, UK
SOURCE: J. Org. Chem. (1991), 56(2), 698-703
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:42844
AB Preactivation of magnesium by dry stirring in an inert atm. is highly beneficial for the clean synthesis of reactive allylic or benzylic organomagnesium chlorides. This procedure routinely produces 0.4 M solns.

of the **Grignard** reagent in di-Et ether free from coupling products. The purity may be directly assayed by 13C NMR spectroscopy. By using spin satn. transfer techniques, the rate const. for interconversion of the enantiomers of (1-phenyl-2-methylpropyl)**magnesium chloride** in Et2O at 25.degree. was shown to be <0.2 s-1. Electron microscopy was used to define the surface changes occurring during the dry stirring of magnesium turnings.

=> d 22 ibib abs hitstr

L12 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:207310 CAPLUS
DOCUMENT NUMBER: 114:207310
TITLE: Method for the preparation of di-**Grignard** reagent - phenylenebis(**magnesium chloride**)
AUTHOR(S): Wang, Meijun; Liao, Shijian; Xu, Yun; Yu, Daorong
CORPORATE SOURCE: Dalian Inst. Chem. Phys., Acad. Sin., Dalian, 116012, Peop. Rep. China
SOURCE: Youji Huaxue (1991), 11(1), 99-102
CODEN: YCHHDX; ISSN: 0253-2786
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 114:207310
AB Com. Mg was activated by adding small amt. of anthracene. The activated magnesium reacted in situ with dichlorobenzene to give phenylenebis(magnesium chloride) in high yield (70%).

=> d 7 11 ibib abs hitstr

L12 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:491691 CAPLUS
DOCUMENT NUMBER: 129:202665
TITLE: Application of CuI to the addition of allylic **Grignard** reagent with carbonyl compounds
AUTHOR(S): Li, Yan; Huang, Jinxia; Zhou, Zhongqiang; Xu, Zhanghuang; Gao, Mingzhag
CORPORATE SOURCE: Faculty Chem. Material Sci., Hubei Univ., Wuhan, 430062, Peop. Rep. China
SOURCE: Hubei Daxue Xuebao, Ziran Kexueban (1998), 20(2), 172-175
CODEN: HDXZEM; ISSN: 1000-2375
PUBLISHER: Hubei Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The reaction of allylic Grignard reagent with carbonyl compds. may make a mixt. of alcs. comprising rearranging a nonrearranging products, and the former is main. CuI has a apparent effect on both Grignard reagent and its addnl. products. A new reactive mechanism is proposed to the addn. of allylic Grignard reagent with carbonyl compds. in the presence of CuI.

L12 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:59159 CAPLUS
DOCUMENT NUMBER: 128:128143
TITLE: Method for synthesizing **Grignard** compounds using catalysts
INVENTOR(S): Bogdanovic, Borislav; Schwickardi, Manfred
PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19628159	A1	19980115	DE 1996-19628159	19960712
CA 2260023	AA	19980122	CA 1997-2260023	19970703
WO 9802443	A1	19980122	WO 1997-EP3516	19970703
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 915889	A1	19990519	EP 1997-931761	19970703
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE				
JP 2000514444	T2	20001031	JP 1998-505568	19970703
US 6117372	A	20000912	US 1999-214369	19990105

PRIORITY APPLN. INFO.: DE 1996-19628159 A 19960712
WO 1997-EP3516 W 19970703

OTHER SOURCE(S): CASREACT 128:128143

AB The prepn. of **Grignard** reagent of arom. chloro compds. by the reaction of magnesium metal in the presence of transition metal/ **magnesium chloride** complex as catalyst is described. Thus, activation of magnesium with Et bromide in THF followed by treatment with FeCl2/MgCl2 in THF gave [FeMgCl.cntdot.0.5 MgCl2] catalyst. Reaction of 1-chloronaphthalene with magnesium in THF gave 62% 1-naphthylmagnesium chloride.

=> d his

(FILE 'HOME' ENTERED AT 19:24:52 ON 12 NOV 2001)

FILE 'CAPLUS' ENTERED AT 19:24:57 ON 12 NOV 2001

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L1          366 S ACTIVATED MAGNESIUM
L2            9 S L1 AND MECHANICAL
L3            3 S L1 AND GRINDING
L4           31 S L1 AND POWDER
L5           23 S L4 AND MAGNESIUM/TI
L6            4 S L1 AND IODIDE
L7            7 S L1 AND IODINE
L8          364 S GRIGNARD AND MAGNESIUM CHLORIDE
L9            0 S GRINARD (L) MAGNESIUM CHLORIDE
L10         138 S GRIGNARD (L) MAGNESIUM CHLORIDE
L11           0 S GRIGARD/TI AND L10
L12          36 S GRIGNARD/TI AND L10

=> s grignard and anthracene
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           610 GRIGNARDS
         36513 GRIGNARD
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          1999 ANTHRACENES
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L13        302 GRIGNARD AND ANTHRACENE

=> s l13 and magnesium anthracene
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        300961 MAGNESIUM
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         38560 ANTHRACENE
                 (ANTHRACENE OR ANTHRACENES)
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            59 MAGNESIUM ANTHRACENE
                 (MAGNESIUM(W)ANTHRACENE)
L14         24 L13 AND MAGNESIUM ANTHRACENE

=> d ti 1-24

L14  ANSWER 1 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Applications of magnesium anthracene in forming
     Grignard reagents

L14  ANSWER 2 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Direct conversion of perfluoroalkanes and perfluoroarenes to perfluoro
     Grignard reagents

L14  ANSWER 3 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   The reactivity of active magnesium from magnesium
     anthracene in the formation of di-Grignard reagents from
     aromatic dichlorides. [Erratum to document cited in CA125:58571]

L14  ANSWER 4 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   The reactivity of active magnesium from magnesium
     anthracene in the formation of di-Grignard reagents from
     aromatic dichlorides

L14  ANSWER 5 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   A facile synthesis of [14C]enadoline [(5R)-(5.alpha.,7.alpha.,8.beta.)]-N-
     methyl-N-[7-(1-pyrrolidinyl)-1-oxaspiro[4.5]dec-8-yl]-4-
     benzofuranacetamide

L14  ANSWER 6 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Polymer supported magnesium anthracene: application in
     the synthesis of benzylic Grignard reagents

L14  ANSWER 7 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Structural characterization of intermetallic Mg-Pt-complexes using X-ray
     absorption spectroscopy

L14  ANSWER 8 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   A Silica-Supported Magnesium-Anthracene Complex

L14  ANSWER 9 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   4,5-Dihydro-4,4-dimethyl-3H-dinaphtho[2,1-c:1',2'-e]stannepin as a
     precursor of 2,2'-bis(lithiomethyl)-1,1'-binaphthyl

L14  ANSWER 10 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Use of magnesium anthracene .cntdot. 3 THF in
     synthesis:  generation of Grignard compounds and other reactions
     with organic halides

L14  ANSWER 11 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Magnesium anthracene systems.  7.  Active magnesium
     from catalytically prepared magnesium hydride or from magnesium
     anthracene and its uses in the synthesis

L14  ANSWER 12 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   Magnesium anthracene systems.  8.  Magnesium adducts
     of substituted anthracenes - preparation and properties

L14  ANSWER 13 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   A new synthesis of anthraquinones using dihydrooxazoles and
     grignard reagents derived from Mg(anthracene)(THF)3

L14  ANSWER 14 OF 24  CAPLUS  COPYRIGHT 2001 ACS
TI   A new synthesis of anthraquinones
```

L14 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Polymer supported **magnesium(anthracene)**: effective in forming benzylic **Grignard** reagents (via electron transfer reactions)

L14 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Benzylic **Grignard** reagents: application of [Mg(C14H10)(THF)3] in regioselective **Grignard** formation and carbon-oxygen cleavage in benzyl ethers

L14 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Organomagnesium reagents: the crystal structures of [Mg(C14H10)(THF)3] and [Mg(CPh3)Br(OEt2)2]

L14 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI **Magnesium anthracene** systems and their application in synthesis and catalysis

L14 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Main group conjugated organic anion chemistry. 3. Application of **magnesium-anthracene** compounds in the synthesis of **Grignard** reagents

L14 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Preparation and applications of novel reactive polymers containing organometallic species

L14 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI The first direct formation of a **Grignard** reagent on an insoluble polymer

L14 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Synthesis and structure of 1,4-dimethylanthracene-9,10-diyltris(tetrahydrofuran)magnesium and .mu.-trichlorohexakis(tetrahydrofuran)dimagnesium anthracenide

L14 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI **Magnesium anthracene**: an alternative to magnesium in the high yield synthesis of **Grignard** reagents

L14 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2001 ACS
TI Magnesium and tin derivatives of fused-ring hydrocarbons and the preparation thereof

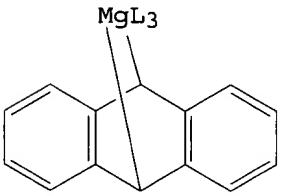
=> d ibib abs hitstr 23 18 19 10 11 12

L14 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1985:406382 CAPLUS
DOCUMENT NUMBER: 103:6382
TITLE: **Magnesium anthracene**: an alternative to magnesium in the high yield synthesis of **Grignard** reagents
AUTHOR(S): Raston, Colin L.; Salem, Geoffrey
CORPORATE SOURCE: Dep. Phys. Inorg. Chem., Univ. West. Australia, Nedlands, 6009, Australia
SOURCE: J. Chem. Soc., Chem. Commun. (1984), (24), 1702-3
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Benzylic di-**Grignard** reagents were prepd. from the appropriate benzylic chlorides in 92-96% yield and from benzylic bromides in 60 and 84% yield by slow addn. of the halide to **magnesium**

anthracene (I) in THF at 20.degree.. E.g., reaction of I with 1,8-C10H6(CH2Cl)2 gave 1,8-C10H6[CH2MgCl(THF)n]2. The **Grignard** reagent of 9-(chloromethyl)**anthracene** was prepd. analogously on stirring for 36 h with I in THF. These **Grignard** reagents are difficult to prep. by conventional methods; I reduces the undesirable coupling reactions which usually occur in these methods.

L14 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:454810 CAPLUS
DOCUMENT NUMBER: 109:54810
TITLE: **Magnesium anthracene** systems and their application in synthesis and catalysis
AUTHOR(S): Bogdanovic, Borislav
CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, 4330/1, Fed. Rep. Ger.
SOURCE: Acc. Chem. Res. (1988), 21(7), 261-7
CODEN: ACHRE4; ISSN: 0001-4842
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review contg. 64 refs. The active MgH2-Mg system, accessible via phase-transfer catalysis of magnesium by **anthracene**, can be applied for chem. synthesis, e.g., for the prepn. of silane and magnesium alkyls.

L14 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:437850 CAPLUS
DOCUMENT NUMBER: 109:37850
TITLE: Main group conjugated organic anion chemistry. 3. Application of **magnesium-anthracene** compounds in the synthesis of **Grignard** reagents
AUTHOR(S): Harvey, Stephen; Junk, Peter C.; Raston, Colin L.; Salem, Geoffrey
CORPORATE SOURCE: Sch. Chem., Univ. West. Australia, Nedlands, 6009, Australia
SOURCE: J. Org. Chem. (1988), 53(14), 3134-40
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 109:37850
GI



I

AB Reaction of magnesium arene compds., e.g., I (L = THF), and some silylanthracene, and/or tertiary amine analogs, with benzylic and allylic chlorides or bromides, and (Me3Si)3CCl, afford **Grignard** reagents in modest to high yield for chlorides, and negligible to high yield for the bromides, in THF, PhMe, and hexane at -10 to 20.degree.. Novel benzylic-type **Grignard** reagents prepd. in high yield include those of 9-(chloromethyl)**anthracene**, 2-(chloromethyl)pyridine and 8-(chloro- or bromomethyl)quinoline, and poly-**Grignard** reagents derived from 1,8-bis(chloromethyl)naphthalene, 2,2'-bis(chloromethyl)-1,1'-binaphthyl, and 1,3,5-tris(chloro- or

bromomethyl)benzene. **Grignard** reagent formation occurs via electron-transfer reactions. Aryl and alkyl halides yield mainly products derived from addn. of the halide across the 9,10-positions of the **anthracenes**, via nucleophilic substitution or collapse of a diradical cage.

L14 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:459253 CAPLUS
DOCUMENT NUMBER: 113:59253
TITLE: Use of **magnesium anthracene** .cntdot. 3 THF in synthesis: generation of **Grignard** compounds and other reactions with organic halides
AUTHOR(S): Bogdanovic, Borislav; Janke, Nikolaus; Kinzelmann, Hans Georg
CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, D-4300, Fed. Rep. Ger.
SOURCE: Chem. Ber. (1990), 123(7), 1507-15
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:59253
AB The course of the reaction of **magnesium anthracene** .cntdot.3THF (I) with org. halides (RX) is dependent on the nature of RX. With alkyl halides in THF I reacts as a nucleophile, whereby primary as well as secondary alkyl halides produce dialkyldihydroanthracenes and reaction with tertiary alkyl halides yield primarily monoalkyl-substituted dihydroanthracenes. With bromo- and iodobenzene in THF I reacts predominantly as a radical with H atom abstraction from the solvent affording benzene and THF substituted **anthracene**. The formation of **Grignard** compds. and **anthracene**, originating from primary and secondary alkyl and aryl halides and I in toluene or ether at elevated temps., is not caused by the reaction of I but by the active magnesium (Mg*) formed by decompn. of I in these solvents. In contrast, allyl, propargyl, and benzyl halides react with I independent of the solvent under mild conditions to produce **Grignard** compds. and **anthracene**. Allyl- and the difficulty accessible allenylmagnesium chloride were prepd. in THF at -78 and 0.degree., resp., from the corresponding halides and ordinary Mg powder via catalytic amts. of I.

L14 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:459252 CAPLUS
DOCUMENT NUMBER: 113:59252
TITLE: **Magnesium anthracene** systems. 7. Active magnesium from catalytically prepared magnesium hydride or from **magnesium anthracene** and its uses in the synthesis
AUTHOR(S): Bartmann, Ekkehard; Bogdanovic, Borislav; Janke, Nikolaus; Liao, Shijan; Schlichte, Klaus; Spliethoff, Bernd; Treber, Joachim; Westeppe, Uwe; Wilczok, Ursula
CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, D-4330, Fed. Rep. Ger.
SOURCE: Chem. Ber. (1990), 123(7), 1517-28
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:59252
AB Highly reactive, pyrophoric forms of magnesium with sp. surface areas of 20-109 m2/g (Mg*) can be generated by the dehydrogenation of catalytically prepd. magnesium hydride (MgH2*) or by decompn. of **magnesium anthracene**.3THF (I). The decompn. of I, with recovery of **anthracene** and THF, may be accomplished both thermally and by ultrasound in an org. solvent (toluene, heptane) or thermally in the solid state in vacuo. Mg* obtained by the latter method exhibits only weak

reflections in the x-ray powder diagram and has, in comparison to other mentioned Mg* species, the highest reactivity toward hydrogen. Diverse **Grignard** compds. can be prepd. under mild conditions (.ltoreq.25.degree.) in THF or ether as well as in hydrocarbons by using Mg* from MgH2* or I. The cleavage of THF with formation of 1-oxa-2-magnesiacyclohexane is possible by employing M* from MgH2* or I.

L14 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:459251 CAPLUS
DOCUMENT NUMBER: 113:59251
TITLE: **Magnesium anthracene** systems. 8. Magnesium adducts of substituted **anthracenes** - preparation and properties
AUTHOR(S): Bogdanovic, Borislav; Janke, Nikolaus; Kinzelmann, Hans Georg; Seevogel, Klaus; Treber, Joachim
CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, D-4330/1, Fed. Rep. Ger.
SOURCE: Chem. Ber. (1990), 123(7), 1529-35
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:59251

AB 2-Methyl-, 1,4-dimethyl-, 9-methyl-, 9-ethyl-, 9,10-dimethyl-, and 9-phenylanthracenes (I) react with Mg in THF at room temp. to afford the corresponding substituted **magnesium anthracenes** (II). 9,10-Diphenylanthracene (III), however, reacts with Mg under the same conditions to produce the deep-blue magnesium bis(9,10-diphenylanthracenide).cntdot.6THF (IV). Upon heating to 60.degree. in THF, IV reversibly dissocs. to give magnesium 9,10-diphenylanthracene.cntdot.3THF and III, while prolonged heating at 60.degree. causes decompn. to give active Mg and III. In THF some II exhibit temp.-dependent equil. with I and Mg. Compared with Mg **anthracene**.cntdot.3THF (V), these equil. are strongly shifted toward substituted **anthracenes** and Mg, and only at 0.degree. high conversions are achieved. The Mg exchange between V and the substituted **anthracenes** in THF has been exptl. verified. II react with org. halides in the same way as V, however, in the case of allyl, propargyl, and benzyl chloride the yields of **Grignard** compds. are lower than for V; with bromobenzene, the tendency for the radical transfer reaction is stronger than for V. Magnesium 9,10-dimethylanthracene reacts with Et acetate to give the bicyclic tertiary alc. by an intramol. C-C coupling reaction.

ACCESSION NUMBER: 1990:459253 CAPLUS
DOCUMENT NUMBER: 113:59253
TITLE: Use of **magnesium anthracene** .cntdot. 3 THF in synthesis: generation of **Grignard** compounds and other reactions with organic halides
AUTHOR(S): Bogdanovic, Borislav; Janke, Nikolaus; Kinzelmann, Hans Georg
CORPORATE SOURCE: Max-Planck-Inst. Kohlenforsch., Muelheim an der Ruhr, D-4300, Fed. Rep. Ger.
SOURCE: Chem. Ber. (1990), 123(7), 1507-15
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:59253

AB The course of the reaction of **magnesium anthracene** .cntdot.3THF (I) with org. halides (RX) is dependent on the nature of RX. With alkyl halides in THF I reacts as a nucleophile, whereby primary as well as secondary alkyl halides produce dialkyldihydroanthracenes and reaction with tertiary alkyl halides yield primarily monoalkyl-substituted dihydroanthracenes. With bromo- and iodobenzene in THF I reacts predominantly as a radical with H atom abstraction from the solvent affording benzene and THF substituted **anthracene**. The formation of **Grignard** compds. and **anthracene**, originating from primary and secondary alkyl and aryl halides and I in toluene or ether at elevated temps., is not caused by the reaction of I but by the active magnesium (Mg*) formed by decompn. of I in these solvents. In contrast, allyl, propargyl, and benzyl halides react with I independent of the solvent under mild conditions to produce **Grignard** compds. and **anthracene**. Allyl- and the difficulty accessible allenylmagnesium chloride were prepd. in THF at -78 and 0.degree., resp., from the corresponding halides and ordinary Mg powder via catalytic amts. of I.

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ACCESSION NUMBER: 1972:564789 CAPLUS
DOCUMENT NUMBER: 77:164789
TITLE: Activated metals. I. Preparation of highly reactive **magnesium** metal
AUTHOR(S): Rieke, Reuben D.; Hudnall, Phillip M.
CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, N. C., USA
SOURCE: J. Amer. Chem. Soc. (1972), 94(20), 7178-9
CODEN: JACSAT
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Redn. of Mg salts with K-THF or Na-diglyme gave reactive **powd.** Mg from which PhMgBr was prepd. (>60) at - 78.degree. in 30 min. Reaction with aryl chlorides was faster than with Mg turnings. PhMgF was prepd. from active Mg and PhF.

ACCESSION NUMBER: 1991:42844 CAPLUS
DOCUMENT NUMBER: 114:42844
TITLE: **Mechanical** activation of magnesium turnings for the preparation of reactive Grignard reagents
AUTHOR(S): Baker, Karen V.; Brown, John M.; Hughes, Nigel; Skarnulis, A. Jerome; Sexton, Ann
CORPORATE SOURCE: Dyson Perrins Lab., Oxford, OX1 3QY, UK
SOURCE: J. Org. Chem. (1991), 56(2), 698-703
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:42844

AB Preactivation of magnesium by dry stirring in an inert atm. is highly beneficial for the clean synthesis of reactive allylic or benzylic organomagnesium chlorides. This procedure routinely produces 0.4 M solns. of the Grignard reagent in di-Et ether free from coupling products. The purity may be directly assayed by 13C NMR spectroscopy. By using spin satn. transfer techniques, the rate const. for interconversion of the enantiomers of (1-phenyl-2-methylpropyl)magnesium chloride in Et2O at 25.degree. was shown to be <0.2 s-1. Electron microscopy was used to define the surface changes occurring during the dry stirring of magnesium turnings.

ACCESSION NUMBER: 1974:133523 CAPLUS
DOCUMENT NUMBER: 80:133523
TITLE: Activated metals. IV. Preparation and reactions of highly reactive **magnesium** metal
AUTHOR(S): Rieke, Reuben D.; Bales, Stephen E.
CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, N. C., USA
SOURCE: J. Amer. Chem. Soc. (1974), 96(6), 1775-81
CODEN: JACSAT
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The redn. of Mg salts in ethereal solvents with K or Na yield Mg in the form of a fine black **powder**. This Mg metal exhibits unusual reactivity toward alkyl and aryl halides. For example, PhBr reacts with the Mg yielding PhMgBr in a few min. at - 78.degree.. The addn. of KI and other inorganic salts prior to the redn. of the Mg salt yields Mg of even greater reactivity. Reactions of this Mg with a variety of alkyl and aryl halides were studied as well as some of the physical properties of the black Mg **powders**.

ACCESSION NUMBER: 1972:121246 CAPLUS
DOCUMENT NUMBER: 76:121246
TITLE: Use of **activated magnesium** during the quantitative microdetermination of hydrogen in organic matter
AUTHOR(S): Fedoseev, P. N.; Baidulina, G. O.
CORPORATE SOURCE: Kiev. Tekhnol. Inst. Legk. Prom., Kiev, USSR
SOURCE: Zavod. Lab. (1971), 37(12), 1424-5
CODEN: ZVDLAU
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The org. substance was decompd. in an evacuated tube by Mg activated with I. The catalyst was prepd. by heating 5 g Mg and 0.5 g I in a sealed tube at 500.degree. for 2 hr. The H2O vapors, released during decompn. of the org. substance, react with MgI2 on the catalyst surface to form HI. Then, HI is decompd. with Mg to form H, and the H is measured gasometrically. Saccharose and anthraquinone were analyzed with an abs. error .ltoreq..+-.0.15%.